Gulfco PRP Meeting September 2, 2004

I. Background (from HRS Documentation Record, 2/2002)

1. Site History:

   a. Gulfco (1971 - 1979) - barge cleaning/waste disposal; used 3 impoundments for wash water storage - used 1971 to 1981.
   b. Fish Engineering (1979 - 1989) - purchased in 1979; barge servicing & cleaning; impoundments closed 1982; wash waters stored in tanks or floating barge.
   c. Hercules Offshore Corp. (1989 - 1998) - purchased in 1989 except Lot 56; barge cleaning/refurbishing.
   d. LDL - except Lot 56, purchased in 1999 from bankruptcy court.
   e. 1971 - 1998: barge cleaning, refurbishing, & offshore platform construction.

2. Investigations:

   a. **1982** (Fish): (4) monitoring wells screened 38' - 48' installed during ponds closure; sampled 4 times; wells plugged in 1983.
      i. Benzene: 8,180 µg/L in ground water; no analysis for other VOCs.
      ii. Ground water @ 38' - 48' is salt water: 32,000 to 50,000 mg/L total dissolved solids.

   b. **1989** (Hercules): (3) 18' monitoring wells near impoundments; screened 8' to 18'; found detectable VOCs & pesticides in MW-2 located southwest of impoundments;

   c. **1999** (LTE for LDL): Site Characterization Report

      i. Installed (2) 8' deep monitoring wells on west side of Lot 55 near former impoundments; no VOCs detected in ground water.
      ii. Identified (2) areas adjacent to tank farm with total petroleum hydrocarbon impact that "may require remedial action"; soil boring B-10 [SE of tank farm] detected 1,2-dichloroethane; ethylbenzene; isopropylbenzene; naphthalene; 1,2,4-trimethylbenzene; & xylenes below TNRCC risk based screening values.
      iii. No acetone, chloroform or 1,2-DCA detected in three existing monitoring wells (MW-1, MW-2, & MW-3); no other VOC analysis reported.

iv. Two ground water samples (GW-4 NE of tank farm; & GW-5 SE of tank farm) contained chloroform (0.006 mg/L) & 1,2-dichloroethane (0.0039 mg/L).

d. **2000** (TCEQ - formerly TNRCC): *Site Screening Inspection* & sampling.
   i. 8 shallow soil samples at various Site locations.
   ii. 2 background shallow soil samples & 1 duplicate.
   iii. 4 sediment samples (grab sample from 30" sediment core).
   iv. 3 background sediment samples & 1 duplicate (1 sample & dup w/ dredge; 2 samples w/ 0"-30" core).

e. **2001** (TCEQ): *Expanded Site Inspection*.
   i. 4 ground water samples plus a duplicate, at toe of former impoundment cap, north, south east & west, 10' screens between 10' & 24'.
   ii. Samples from GW-8 & GW-9 Site temporary monitoring wells, 20' deep with 10' screens, just south of Marlin Ave, did not detect VOC or SVOC.
   iii. 2 background ground water samples, screened 10' -20' @ 0.6 mi SW & 0.34 mi. NE of facility (both north of Marlin Ave.).

3. Listing History

   a. Proposed for listing on the National Priorities List ("NPL") on September 5, 2002 (67 FR 56794);
   b. Placed on the NPL effective May 30, 2003, in a final rulemaking published on April 30, 2003 (68 FR 23077).

II. Contamination

1. Soil:

Hazardous Substance	Maximum Soil Concentration (mg/kg)		Soil Screening Level Residential Exposure (Risk = 10^{-6} or HQ = 1) (mg/kg)	Location
	Site	Background		
methylene chloride	0.025	0.006	8.9	
phenanthrene	2.5	ND (0.44)	na	
fluoranthene	5.1	ND (0.44)	2,300	
pyrene	4.4	ND (0.44)	2,300	

Hazardous Substance	Maximum Soil Concentration (mg/kg)		Soil Screening Level Residential Exposure (Risk = 10^{-6} or HQ = 1) (mg/kg)	Location
	Site	Background		
benzo(a)anthracene	2.4	ND (0.44)	0.62	Lot 57/58; composite sample 0" - 6".
benzo(b)fluoranthene	2.7	ND (0.44)	0.62	Lot 57/58; composite sample 0" - 6".
benzo(k)fluoranthene	2.5	ND (0.44)	6.2	
benzo(a)pyrene	2.6	ND (0.44)	0.062	Lot 57/58; composite sample 0" - 6".
benzo(g,h,i)perylene	2.2	ND (0.44)	na	
chrysene	2.8	ND (0.44)	62	
ideno(1,2,3-cd) pyrene	2.2	ND (0.44)	0.62	Lot 57/58; composite sample 0" - 6".
alpha-chlordane	0.0084	ND (0.0022)	1.6 (chlordane)	
gamma-chlordane	0.020	ND (0.0022)	1.6 (chlordane)	
dieldrin	0.015	ND (0.0043)	0.03	
4,4'-DDT	0.015	ND (0.0043)	1.7 (DDT)	
endrin aldehyde	0.018	ND (0.0043)	18.0 (endrin)	
Arochlor-1254 (PCB)	0.150	ND (0.043)	0.22	
lead	221	14.3	400	
zinc	1150	50.1	23,000	

ND = Not detected at the reported sample quantitation limit (SQL)

2. Sediment:

Hazardous Substance	Maximum Sediment Concentration, mg/kg		Sediment Screening Level
	Adjacent to Site	Background	
phenanthrene	1.2	ND (0.490)	0.24
fluoranthene	2.0	ND (0.490)	0.6
pyrene	2.0	ND (0.490)	0.665
bis(2-ethylhexyl)phthalate	1.2	0.150	0.182
gamma-chlordane	0.0055	ND (0.0026)	0.00226
heptachlor-epoxide	0.0038	ND (0.0026)	na
lead	46.8	12.6	46.7
zinc	314	54.4	150

ND = Not detected at the reported sample quantitation limit (SQL)

3. Ground Water

Hazardous Substance	Maximum Ground Water Concentration, mg/L		TX Water Quality Standards for Human Health (for Salt Water Fish Consumption) (mg/L)	TX Water Quality Standards for Aquatic Life (mg/L)
	Site	Background		
benzene	18	ND (0.010)	0.208	na

Hazardous Substance	Maximum Ground Water Concentration, mg/L		TX Water Quality Standards for Human Health (for Salt Water Fish Consumption) (mg/L)	TX Water Quality Standards for Aquatic Life (mg/L)
	Site	Background		
carbon disulfide	0.048	ND (0.010)	na	na
chloroform	1.2	ND (0.010)	8.087	na
1,1-dichloroethane	12	ND (0.010)	na	na
1,2-dichloroethane	2,800	ND (0.010)	1.196	na
1,1-dichloroethene	30	ND (0.010)	0.058	na
1,2-dichloropropane	2.1	ND (0.010)	na	na
ethyl benzene	0.040	ND (0.010)	na	na
methylene chloride	750	ND (0.010)	na	na
4-methyl-2-pentanone	0.30	ND (0.010)	na	na
tetrachloroethene	29	ND (0.010)	1.221	na
toluene	0.78	ND (0.010)	na	na
1,1,1-trichloroethane	93	ND (0.010)	na	na
1,1,2-trichloroethane	0.046	ND (0.010)	na	na
trichloroethene	92	ND (0.010)	na	na
vinyl chloride	17	ND (0.010)	0.063	na
xylenes	0.130	ND (0.010)	na	na
acetophenone	0.120	ND (0.010)	na	na
phenol	0.051	ND (0.010)	na	na
naphthalene	0.230	ND (0.010)	na	na

Hazardous Substance	Maximum Ground Water Concentration, mg/L		TX Water Quality Standards for Human Health (for Salt Water Fish Consumption) (mg/L)	TX Water Quality Standards for Aquatic Life (mg/L)
	Site	Background		
aldrin	9.9e-05	ND (0.00005)	2.2e-05	0.0013 (acute)
alpha-BHC	0.00048	ND (0.00005)	na	na
beta-BHC	0.00075	ND (0.00005)	na	na
delta-BHC	0.000092	ND (0.00005)	na	na
gamma-BHC (lindane)	0.00059	ND (0.00005)	0.0107	0.00016 (acute)
endrin	3.2e-04	ND (0.0001)	na	2.0e-06
endosulfan II	4.2e-04	ND (0.0001)	na	9.0e-06
4,4'-DDT	1.4e-03	ND (0.0001)	3.5e-05	1.0e-04
arsenic	0.0777	0.00102	na	0.078
cobalt	0.0669	0.0174	na	na
copper	0.273	0.0364	na	0.0036
lead	0.0947	0.0244	0.00385	0.0053
manganese	8.66	2.81	na	na
nickel	0.217	0.0468	na	0.0131
vanadium	0.196	0.0649	na	na

ND = Not detected at the reported sample quantitation limit (SQL)
BOLD: Potential DNAPL, concentration greater than 1% of solubility in water.

4. Possible Receptors:

a. Human - surface soil - future resident (Site is adjacent to Bridge Harbor

Subdivision)

b. Deep aquifer - Marina water well located adjacent to Site (between Bay Harbor & Site); used until 1984; depth 199'; screened 188' - 198'; water table at 63'. Probable DNAPL at Site; possible migration downward to aquifer:

   i. **1,2-dichloroethane [EDC]**- SG 1.24; solubility = 8,690 mg/L; 2,800 mg/L in sample is 32% of solubility; sample result was biased low & actual concentration may be higher; MCL = 0.005 mg/L.
   ii. **1,1-dichloroethene** - SG 1.22; solubility = 210; 30 mg/L in sample is 14% of solubility; MCL = 0.007 mg/L.
   iii. **Methylene Chloride** - SG 1.33; solubility = 16,700 mg/L; 750 mg/L sample is 4.5% of solubility; sample result was biased low & actual concentration may be higher; no MCL - risk based screen = 0.004 mg/L.
   iv. **Tetrachloroethene [PCE]** - SG 1.62; solubility = 150 mg/L; 29 mg/L sample is 19% of solubility; estimated concentration; MCL = 0.005 mg/L.
   v. **1,1,1-trichloroethane** - SG 1.34; solubility = 4,400 mg/L; 93 mg/L in sample is 2.1% of solubility; sample result was biased low & actual concentration may be higher; MCL = 0.2 mg/L.
   vi. **Trichloroethene [TCE]** - SG 1.46; solubility = 1,100 mg/L; 92 mg/L sample is 8.4% of solubility; MCL = 0.005 mg/L.

c. Human - fish consumption

d. Ecological (wetlands north of Site & aquatic life) - pathway - surface runoff and/or contaminated ground water migration to wetlands north of Site & to Intracoastal Waterway.

5. Potential Continuing Source

   a. (3) impoundments closed in 1982; multiple wastes from wash water; depths of impoundments unknown; removed liquids & most of sludges during closure; left approximately 100 yds^3 of sludge/soil mix.

III. Work To Be Done (RI/FS)

1. AOC

   a. Conduct RI/FS.
   b. Monthly progress reports.
   c. "Good Faith Offer" within 67 days of date of Special Notice Letter (7/14/2004 & 7/22/2004) - by **9/27/2004**.

d. May be extended by 30 days with "Good Faith Offer" - to **10/27/2004.**

2. Special Account

a. $ 100,000 for oversight, replenished as necessary.
b. $ 700,000 estimated total cost to complete RI/FS.

3. Past Costs: **$ 162,707.07** (as of April 30, 2004).